

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A carrier robot system comprising:

a robot which has a placement portion for placing an object presenting a low-profile form thereon and carries the object;

a robot controller for controlling the robot;

a teaching jig mounted on the placement portion of the robot in place of the object during a teaching operation and having an image pickup member, the teaching jig having a positioning mechanism with respect to the placement portion;

an image processing portion for processing an image picked up by the image pickup member; and

a teaching control portion for controlling the robot controller and image processing portion,

wherein the robot is installed in a semiconductor manufacturing apparatus.

2. (currently amended): A control method for a carrier robot installed in a semiconductor manufacturing apparatus for carrying an object presenting a low-profile shape placed at a predetermined placement position, wherein

the method comprising the steps of:

positioning in a predetermined direction and placing a teaching jig having an image pickup member in advance in place of an object on a placement portion of a front end of an arm of the robot, wherein a positioning mechanism in the teaching jig with respect to the positioning portion is used for the positioning.

shifting the robot to a position where the image pickup member can detect a characteristic part existing in the vicinity of the predetermined placement position,

picking up an image including the characteristic part by the image pickup member,

determining a position of the characteristic part in a coordinate system of the image pickup member based on the picked-up image, and

transforming a position on the coordinate system of the image pickup member into a position on a coordinate system of the robot to determine the placement position.

3. (original): The control method for a carrier robot according to Claim 2, wherein

a transformation matrix for transforming a relationship between the coordinate system of the image pickup member and the coordinate system of the robot in translation and rotation is determined in advance, and

the position of the characteristic part in the coordinate system of the image pickup member is transformed into a position in the coordinate system of the robot.

4. (previously presented): The control method for a carrier robot according to Claims 2, wherein

the jig is removable from the placement portion during conveyance of the object presenting a low-profile form.

5. (previously presented): The control method for a carrier robot according to Claim 2, wherein

the characteristic part is a hole, a pin, a mark, or a letter pattern.